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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/651,328	08/28/2003	Amy H. Kang	5681-69401	7788

35690	7590	12/08/2006

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ART UNIT	PAPER NUMBER
2191	

DATE MAILED: 12/08/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

PTO-90C (Rev. 10/03)

<table>
<tr><td rowspan="2">Office Action Summary</td><td>Application No.

10/651,328</td><td>Applicant(s)

KANG ET AL.</td><td></td></tr>
<tr><td>Examiner

Philip Wang</td><td>Art Unit

2191</td><td></td></tr>
</table>

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE ____ MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *28 August 2003*.

2a)☐ This action is **FINAL**.   2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-62* is/are pending in the application.

    4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-62* is/are rejected.

7)☒ Claim(s) *9* is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *28 August 2006* is/are: a)☒ accepted or b)☐ objected to by the Examiner.

    Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

    Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

    a)☐ All   b)☐ Some * c)☐ None of:

      1.☐ Certified copies of the priority documents have been received.

      2.☐ Certified copies of the priority documents have been received in Application No. _____.

      3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

    * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1)☒ Notice of References Cited (PTO-892)

2)☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)

3)☒ Information Disclosure Statement(s) (PTO/SB/08)
    Paper No(s)/Mail Date *7/10/2006*.

4)☐ Interview Summary (PTO-413)
    Paper No(s)/Mail Date. _____ .

5)☐ Notice of Informal Patent Application

6)☐ Other: _____.

U.S. Patent and Trademark Office

PTOL-326 (Rev. 08-06)   **Office Action Summary**   Part of Paper No./Mail Date 20060831

Detail Action

1.   This office action is in response to the application filed on 8/28/2003.

2.   Claims 1-62 are pending.

Priority

3.   The priority date considered for this application is 7/31/2003.

Claim Objections

4.   Claim 9 is objected to because of the following informalities: The instant claim

ends with two periods. There should be only one period. Appropriate correction is

required.

Claim Rejections - 35 USC § 101

35 U.S.C. 101 reads as follows:

Whoever invents or discovers any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof, may obtain a patent therefor, subject to the conditions and requirements of this title.

5.   Claims 20-25, 39-46, 47-50, 51-58, and 59-62 are rejected under 35 U.S.C. 101

because they do not have a practical application that produces useful, concrete, and

tangible result.

Claims 20, 39, and 51 recite the limitation of "determining if the function generated an error; and if the function generated and error..." Under the condition that if the function does not generate an error, no action is taken. As a result it does not produce any useful, concrete, and tangible result.

Claims 21-25 depend on claim 20 and do not appear to resolve the above described deficiency and are rejected set forth for the rejection of claim 20.

Claims 40-46 depend on claim 39 and do not appear to resolve the above described deficiency and are rejected set forth for the rejection of claim 39.

Claims 52-58 depend on claim 51 and do not appear to resolve the above described deficiency and are rejected set forth for the rejection of claim 51.

Claims 47 and 59 recite the limitation of "if the library function generates one or more errors..."Under the condition if the library function does not generate an error, no action is taken. As a result it does not produce any useful, concrete, and tangible result.

Claims 48-50 depend on claim 47 and do not appear to resolve the above described deficiency and are rejected set forth for the rejection of claim 47.

Claims 60-62 depend on claim 59 and do not appear to resolve the above described deficiency and are rejected set forth for the rejection of claim 59.

6.   Claims 51-62 are rejected under 35 U.S.C. 101 because the claimed invention is

directed to non-statutory subject matter.

Claims 51-62 recite the limitation of a computer-accessible medium, which could include

transmission media or signals such as electrical, electromagnetic, or digital signals according to

the Applicant's specification [0039]. Current practice of the office does not consider such subject

matters as patentable subject matters.

Claim Rejections - 35 USC § 112

The following is a quotation of the second paragraph of 35 U.S.C. 112:

> The specification shall conclude with one or more claims particularly pointing out and distinctly
> claiming the subject matter which the applicant regards as his invention.

7.   Claims 36-38 are rejected as being indefinite. Claim 36 recites the limitation "the

plurality of library functions" in "means for a plurality of functions in a function call stack

to generate information describing one or more errors generated by the plurality of

library functions". There is insufficient antecedent basis for this limitation in the claim.

For the purpose of art rejection, the examiner will assume "a plurality of library

functions" as "a plurality of functions". Claims 37 and 38 depend on claim 37 and suffer

the same deficiency.

Claim Rejections - 35 USC § 102

((b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

8.   Claims 1-25 and 31-62 are rejected under 35 U.S.C. 102(b) as being anticipated by "Error Handling Interface(H5E)" (herein H5E).

As per claim 1, H5E discloses

a processor; and a memory comprising program instructions, wherein the program instructions are executable by the processor to implement a program configured to:

- call an API function of a library (H5E, p. 1, Introduction, "...within the HDF5 library...application-called API function..."); and

- obtain an error trace for the API function (H5E, p. 1, 2. Error Handling Operations, 2nd para., "The error stack can also be printed..."; p. 3, see herr_t H5Ewalk());

- wherein the error trace includes one or more error trace elements, wherein each error trace element includes information describing a particular error generated during execution of the API function (H5E, p. 1, Example:An Error Message, where it shows multiple trace elements, "#000: H5T.c line 462").

As per claim 2,

the rejection claim 1 is incorporated;

H5E discloses

- wherein the API function is configured to call a plurality of library functions
  in a function call stack, wherein each of the plurality of library functions is
  configured to, if the library function generates an error, add an error trace
  element to the error trace (1. Introduction).

As per claim 3,

the rejection claim 1 is incorporated;

H5E discloses

- wherein the API function is configured to call another library function,
  wherein the other library function is configured to, if the other library
  function generates an error, add an error trace element to the error
  trace (1. Introduction).

As per claim 4,

the rejection claim 1 is incorporated;

H5E discloses

- wherein the error trace is a program structure defined in the library, and
  wherein the error trace further includes a field indicating a count of the
  error trace elements in the error trace (p. 3, under herr_t H5Ewalk
  "The error stack..."; and under typedef herr_t, "...n is

sequence number…").

As per claim 5,

the rejection claim 1 is incorporated;

H5E discloses

- wherein each error trace element indicates one or more of a location

where the particular error of the error trace element occurred, an error

type of the particular error, and what the particular error is (p. 1,

Example: An Error Message).

As per claim 6,

the rejection claim 5 is incorporated;

H5E discloses

- wherein the location of the particular error includes one or more of a

function name, a source file name, and a line number where the particular

error occurred (p. 1, Example: An Error Message).

As per claim 7,

the rejection claim 1 is incorporated;

H5E discloses

- wherein the program is further configured to determine from the error trace

element one or more of a location where the particular error of the error

trace element occurred, an error type of the particular error, and what the

particular error is (p. 1, Example: An Error Message).

As per claim 8,

the rejection claim 1 is incorporated;

H5E discloses

- wherein the library is a C/C++ interface library (p. 1, Example: An

   Error Message).

As per claim 9, H5E discloses

- a processor; and a memory comprising program instructions, wherein the

   program instructions are executable by the processor to implement a

   library and a program configured to call a library function of the

   library (H5E, p. 1, Introduction, "...within the HDF5

   library...application-called API function...");

- wherein the library function is configured to, if the library function

   generates one or more errors, add an error trace element to an error trace

   for each error, wherein each error trace element includes information

   describing a particular error generated during execution of the library

   function (H5E, p. 1, Example: An Error Message, where it

   shows multiple trace elements, "#000: H5T.c line 462"

   );

- and wherein, after completion of the library function, the program is further

    configured to obtain the error trace for the library function (see example

    code H5Ewalk_cb on page 3-4.).

As per claims 10-12,

the rejection of claim 9 is incorporated and further

- claims 10-12 recite the same limitation of claims 2, 7 and 8 respectively

    and are rejected for the same reason set forth in the rejection of claims 2,

    7 and 8 respectively.

As per claim 13,

H5E discloses

- a processor; and a memory comprising program instructions, wherein the

    program instructions are executable by the processor to implement a

    program configured to: call a function (H5E, p. 1, Introduction,

    "...within the HDF5 library...application-called API

    function...");

- and obtain an error trace for the function (H5E, p. 1, 2. Error

    Handling Operations, 2nd para., "The error stack can

    also be printed..."; p. 3, see herr_t H5Ewalk());

- wherein the error trace includes one or more error trace elements, wherein

    each error trace element includes information describing a particular error

generated during execution of the function (H5E, p. 1, Example: An

Error Message, where it shows multiple trace elements,

"#000: H5T.c line 462").

As per claims 14-17 and 19,

the rejection of claim 13 is incorporated and further

- claims 14-17 and 19 recite the same limitation of claims 2-5 and 7

respectively and are rejected for the same reason set forth in the rejection

of claims 2-5 and 7 respectively.

As per claim 18,

the rejection of claim 17 is incorporated and further

- claim 18 recites the same limitation of claim 6 and is rejected for the same

reason set forth in the rejection of claim 6.

As per claim 20,

H5E discloses

- a processor; and a memory comprising program instructions, wherein the

program instructions are executable by the processor to implement a

program configured to: call a function (H5E, p. 1, Introduction,

"...within the HDF5 library...application-called API

function...");

- determine if the function generated an error, and if the function generated

  an error, obtain an error trace for the function (p. 2, Example,:

  Error Control, sample code, last if statement);

- wherein the error trace includes one or more error trace elements, wherein

  each error trace element includes information describing a particular error

  generated during execution of the function (H5E, p. 1, Example: An

  Error Message, where it shows multiple trace elements,

  "#000: H5T.c line 462").

As per claims 21-23,

the rejection of claim 20 is incorporated and further

- claims 21-23 recite the same limitation of claims 2-5 and 7 respectively

  and are rejected for the same reason set forth in the rejection of claims 2-

  5 and 7 respectively.

As per claim 24,

the rejection claim 20 is incorporated;

H5E discloses

- wherein the function is a function of a library, and wherein said call is to an

  API call of the function in an API to the library (p.1, Introduction).

As per claim 25,

the rejection claim 24 is incorporated;

H5E discloses

- wherein the library is a C/C++ interface library(p. 1, Example: An

  Error Message).

As per claim 31,

H5E discloses a system, comprising: a processor; and a memory comprising program

instructions, wherein the program instructions are executable by the processor to

implement a library comprising

- one or more library functions and an API to the library, wherein the API

  includes: one or more function definitions configured for access of the one

  or more library functions by a program (H5E, p. 1, Introduction,

  "...within the HDF5 library...application-called API

  function...");

- and a function definition for a get error trace function configured for access

  by the program to get error traces generated by the one or more library

  functions (for example, p. 4, under /* Get descriptions

  for the major and minor error numbers */ maj_str =

  H5Eget_major (err_desc->maj_num);

- min_str = H5Eget_minor (err_desc->min_num);););

- wherein each error trace includes one or more error trace elements,

  wherein each error trace element includes information describing a

  particular error generated during execution of the associated library

  function(H5E, p. 1, Example: An Error Message, where it

  shows multiple trace elements, "#000: H5T.c line 462"

).

As per claim 32,

the rejection of claim 31 is incorporated and further

- claim 32 recites the same limitation of claims 2 and 3 and is rejected for

  the same reason set forth in the rejection of claims 2 and 3.

As per claim 33,

the rejection of claim 32 is incorporated and further

- claim 33 recites the same limitation of claim 6 and is rejected for the same

  reason set forth in the rejection of claim 6.

As per claims 34-35,

the rejection of claim 31 is incorporated and further

- claims 34-35 recite the same limitation of claims 7 and 8 respectively and

  are rejected for the same reason set forth in the rejection of claims 7 and 8

  respectively.

As per claim 36, H5E discloses a system, comprising:

- means for a plurality of functions in a function call stack to generate

  information describing one or more errors generated by the plurality of

  functions (See 1. Introduction);

- means to obtain the generated information (H5E, p. 1, 2. Error

  Handling Operations, 2nd para., "The error stack can

  also be printed…"; p. 3, see herr_t H5Ewalk());

- and means to determine from the obtained information one or more of a

  location where each error occurred, an error type of each error, and what

  the each error is (H5E, p. 1, Example: An Error Message,

  where it shows multiple trace elements, "#000: H5T.c

  line 462").

As per claim 37,

the rejection claim 36 is incorporated;

H5E discloses

- wherein the plurality of functions are functions of a library, further

  comprising means to call the plurality of functions in the function call stack

  from a program (p. 1. Introduction).

As per claim 38,

the rejection claim 37 is incorporated;

H5E discloses

- wherein the library is a C/C++ interface library (p. 1, Example: An

  Error Message).

As per claim 39,

H5E discloses

- a program calling a function (p. 1, 1. Introduction);

- the program determining if the function generated an error (p. 2,

  Example, Error Control, last if statement; p. 4, /*

  Check.arguments*/);

- and if the function generated an error, the program obtaining an error

  trace for the function (p. 1, Example, An Error Message);

- wherein the error trace includes one or more error trace elements, wherein

  each error trace element includes information describing a particular error

  generated during execution of the function H5E, p. 1, Example: An

  Error Message, where it shows multiple trace elements,

  "#000: H5T.c line 462").

As per claim 40,

the rejection claim 39 is incorporated;

H5E discloses

- the function calling a plurality of functions in a function call stack; for each

of the plurality of functions, if the particular function generates an error,

adding an error trace element to the error trace (p. 1, 1.

Introduction).

As per claim 41,

the rejection claim 39 is incorporated;

H5E discloses:

- the function calling another function; if the other function generates an

error, adding an error trace element to the error trace (p. 1, 1.

Introduction).

As per claim 42,

the rejection claim 39 is incorporated;

H5E discloses

- wherein each error trace element indicates one or more of a location

where the particular error of the error trace element occurred, an error

type of the particular error, and what the particular error is (p. 1,

Example: An Error Message).

As per claim 43,

the rejection claim 42 is incorporated;

H5E discloses

- wherein the location of the particular error includes one or more of a
  function name, a source file name, and a line number where the particular
  error occurred (p. 1, Example: An Error Message).

As per claim 44,

the rejection claim 39 is incorporated;

H5E discloses

- further comprising determining from the error trace element one or more of
  a location where the particular error of the error trace element occurred,
  an error type of the particular error, and what the particular error is (p., 1,
  Example: An Error Message).

As per claim 45,

the rejection claim 39 is incorporated;

H5E discloses

- wherein the function is a function of a library called via an API to the
  library (p. 1, 1. Introduction).

As per claim 46,

the rejection claim 45 is incorporated;

H5E discloses

- wherein the library is a C/C++ interface library (p. 1, Example: An

    Error Message).

As per claim 47,

H5E discloses

- a program calling a library function of a library via an API to the library(p.

    1, 1. Introduction);

- if the library function generates one or more errors, adding an error trace

    element to an error trace for each error (p. 1, 1. Introduction);

- after completion of the library function, the program obtaining the error

    trace for the library function (p. 1, 1. Introduction, p. 1,

    Example, An Error Message);

- wherein each error trace element includes information describing a

    particular error generated during execution of the library function (p. 3,

    para. 5, "error numbers ...func_name is the name of the

    function where the error was detected...").

As per claims 48-50,

the rejection of claim 47 is incorporated and further

- claims 48-50 recite the same limitation of claims 2, 7, and 8 respectively

    and are rejected for the same reason set forth in the rejection of claims 2,

    7 and 8 respectively.

As per claim 51,

- it is the computer-accessible medium claim corresponding to method

  claim 39 and is rejected for the same reason set forth in connection of the

  rejection of claim 39 above.

As per claim 52,

the rejection claim 51 is incorporated;

H5E discloses

- the function calling a plurality of functions in a function call stack; for each

  of the plurality of functions, if the particular function generates an error,

  adding an error trace element to the error trace (p. 1, 1.

  Introduction).

As per claim 53,

the rejection claim 51 is incorporated;

H5E discloses

- the function calling another function; if the other function generates an

  error, adding an error trace element to the error trace (p. 1, 1.

  Introduction).

As per claim 54,

the rejection claim 51 is incorporated;

H5E discloses

- wherein each error trace element indicates one or more of a location

    where the particular error of the error trace element occurred, an error

    type of the particular error, and what the particular error is (p. 1,

    Example, An Error Message).

As per claim 55,

the rejection claim 54 is incorporated;

H5E discloses

- wherein the location of the particular error includes one or more of a

    function name, a source file name, and a line number where the particular

    error occurred (p. 1, Example, An Error Message).

As per claim 56,

the rejection claim 51 is incorporated;

H5E discloses

- wherein the program instructions are further configured to implement

    determining from the error trace element one or more of a location where

    the particular error of the error trace element occurred, an error type of the

    particular error, and what the particular error is (p. 1, Example, An

    Error Message).

As per claim 57,

the rejection claim 51 is incorporated;

H5E discloses

- wherein the function is a function of a library called via an API to the

    library(p. 1, 1. Introduction).

As per claim 58,

the rejection claim 57 is incorporated;

H5E discloses

- the library is a C/C++ interface library(p. 1, Example, An Error

    Message).

As per claim 59,

- it is the computer-accessible medium claim corresponding to method

    claim 47 and is rejected for the same reason set forth in connection of the

    rejection of claim 47 above.

As per claim 60,

the rejection claim 59 is incorporated;

H5E discloses

- the library function calling a plurality of library functions in a function call

    stack; for each of the plurality of library functions, if the library function

    generates an error, adding an error trace element to the error trace (p.

    1, 1. Introduction).

As per claim 61,

the rejection claim 59 is incorporated;

H5E discloses

- the program instructions are further configured to implement determining

    from the error trace element one or more of a location where each error

    occurred, an error type of each error, and what each error is (p. 1,

    Example, An Error Message).

As per claim 62,

the rejection claim 59 is incorporated;

H5E discloses

- wherein the library is a C/C++ interface library (p. 1, Example, An

    Error Message).

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all

obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

9.   Claims 26-30 are rejected under 35 U.S.C. 103(a) as being unpatentable over

"Error Handling Interface(H5E)" (herein H5E) in view of "Debugging HDF5 Applications"

(herein HDF5).

As per claim 26, H5E discloses

- a processor; and a memory comprising program instructions, wherein the

    program instructions are executable by the processor to implement a

    program configured to: call an API function of a library H5E, p. 1,

    Introduction, "…within the HDF5 library…application-

    called API function…");

- and obtain an error trace for the API function (H5E, p. 1, 2. Error

    Handling Operations, 2nd para., "The error stack can

    also be printed…"; p. 3, see herr_t H5Ewalk());

- wherein the error trace includes one or more error trace elements,

    wherein each error trace element includes information describing a

    particular error generated during execution of the API function (H5E, p.

> 1, Example: An Error Message, where is shows multiple
>
> trace elements, "#000: H5T.c line 462").

H5E does not specifically disclose

- a program configured to generate code.

However, HDF5 discloses

- a program configured to generate code (p. 1, API Tracing, line

  2, "…This code is also conditionally included at

  compile time and enabled at runtime.").

Therefore, it would have been obvious to a person of ordinary skill in the art at the time

the invention was made to incorporate the teachings of HDF5 into the teachings of H%E

to include a program configured to generate code. The modification would be obvious

to one of ordinary skill in the art to want to make programmers' life easier as suggested

by HDF5 (see Introduction).

As per claims 27-30,

the rejection of claim 26 is incorporated and further claims 27-30 recite the same

limitation of claims 2-5, 7 and 8 respectively and are rejected for the same reason set

forth in the rejection of claims 2-5, 7 and 8 respectively.

Conclusion

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

It is noted that any citation [[s]] to specific, pages, columns, lines, or figures in the prior art references and any interpretation of the references should not be considered to be limiting in any way. A reference is relevant for all it contains and may be relied upon for all that it would have reasonably suggested to one having ordinary skill in the art. [[See, MPEP 2123]]

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Philip Wang whose telephone number is 571-272-5934. The examiner can normally be reached on Mon - Fri 8:00AM - 4:00PM. Any inquiry of general nature or relating to the status of this application should be directed to the TC2100 Group receptionist: 571-272-2100.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Wei Zhen can be reached on 571-272-3708. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

*Mary Steelman
Primary Examiner   12-05-2006*